61. Image recording apparatus according to claim 1 wherein the optical sensor means (12) comprises a charge coupled device (CCD) chip, the chip comprising an array of photoelectric detector pixels.

62. Image recording apparatus according to claim 61 wherein the pixels have a broad response centering on a particular wavelength of light.

A1

63. Image recording apparatus according to claim 61 wherein the CCD chip is coated with a filter (14).

64. Image recording apparatus according to claim 1 wherein the optical processing means comprises an optical filter (14).

65. Image recording apparatus according to claim 64 wherein the filter (14) has characteristics such that its output is linearly related to its input.

66. Image recording apparatus according to claim 64 wherein the response of the filter (14) is a smooth function with respect to wavelength and the filter (14) has an average transmittance of more than 30%.

67. Image recording apparatus according to claim 64 wherein the filter (14) produces an output which includes relatively more light of one wavelength than of another wavelength as compared with the input.

68. Image recording apparatus according to claim 64 wherein the filter (14) is located in the image light path before the optical sensor means.

69. Image recording apparatus according to claim 1 wherein first and second optical sensor means are provided by a single CCD chip (12) which records the first and second digital optical images.

70. Image recording apparatus according to claim 69 wherein the first and second sensor means may compise respectively different parts of the chip (12).

71. Image recording apparatus according to claim 69 wherein the first and second images comprise different parts of the image recorded by the CCD chip (12) in spatial terms or in terms of the frequencies of light recorded.

A1

72. Image recording apparatus according to claim 69 wherein a filter (14) is provided in front of or on a part of the CCD chip (12) such that the first or second digital optical image is recorded by that part of the chip, and the other of the digital optical images is recorded by the remainder of the chip.

73. Image recording apparatus according to claim 1 wherein the optical sensor means comprises a first CCD chip (12a) for recording the first digital optical image and a second CCD chip (12b) for recording the second digital optical image.

74. Image recording apparatus according to claim 73 wherein the chips (12a, 12b) are located in close proximity to one another, in the same geometric plane.

75. Image recording apparatus according to claim 73 wherein the two CCD chips (12a, 12B) are responsive to respectively substantially the same frequencies oflight, the optical processing means comprising an optical beamsplitter for splitting the image light into two parts and for directing each part of the light towards a respective one of the CCD chips, and an optical filter (14) being located in the path of one part of the image light, before one CCD chip.

76. Image recording apparatus according to claim 73 wherein the optical sensor means and the optical processing means are located within a housing, such as a camera body.

77. Image recording apparatus according to claim 73 wherein each CCD chip (12a, 12b) is provided in a separate housing, a first housing having a CCD chip (12b) provided therein and a second housing having a CCD chip (12a) and an optical filter (14) provided therein.

78. Image recording apparatus according to claim 73 wherein a first CCD chip is provided within a first digital camera and a

second CCD chip is provided within a second digital camera, such that the different optical processing of the two images results from the different camera characteristics.

79. Image recording apparatus according to calim 73 wherein the two chips are responsive to respectively different frequencies of light.

A'

80. Image recording apparatus according to claim 1 wherein the processing means is microprocessor based, having electrical memory means.

81. Image recording apparatus according to claim 1 wherein the processing means includes means for providing information relating to the spectral characteristics of the illuminant light.

82. Image recording apparatus according to claim 81 wherein information relating to the spectral characteristics of the illuminant light is used to facilitate removal of at least some of any illuminant colour bias present in the recorded image.

83. Image recording apparatus according to claim 81 wherein the processing means includes means for facilitating the removal of at least some of any demosaicing errors and/or interreflection errors and/or shadows present in the recorded image.

84. Image recording apparatus according to claim 81 wherin the processing means includes means for providing information relating to the physics of the scene, such as the physical characteristics of the scene.

85. A method for recording an image according to claim 31 wherein different optical processing results at least partly from the filtering of light producing the first or second image.

86. A method according to claim 31 wherein the different optical processing is provided by the use of sensors responsive to respectively different frequencies of light in recording the fist and second images.

87. A method for recording an image according to claim 31 wherein the first and second images comprise respectively different parts of a global image of a scene.

88. A method for recording an image according to claim 31 wherein the processing of the information relating to the first and second images provides an estimate of the spectral characteristics of the illuminant light.

89. A method for calibrating image recording apparatus, the method being according to claim 31.

90. A method according to claim 89 wherein the method includes the carrying out of steps (a) and (b) for each of a plurality of different known illuminant lights and wherein step (b) includes the step of processing the information relating to the first adn second images to provide an indication of the relationship therebetween.

91. A method accoridng to claim 90 wherein the indication of the relationship is a transform function, which may be a transform matrix, and the method provides a set of reference transform functions, each transform function relating to a different known illuminant light.

92. A method according to claim 31 for processing an image recorded using image recording apparatus wherein the first and second images relate to a scene illuminated by an unknown illuminant.

93. A method according to claim 92 wherein the method includes the step of applying one or more of the reference transform functions to the first or second image and determining the reference transform function which best relates the two images.

94. A method according to claim 93 wherein each reference transform function is applied to the first image to produce a transformed first image, which is subsequently compared to the second image and the reference transform function which produces a transformed first image most closely resembling the second image is selected as the best reference transform function.

95. A method according to claim 94 wherein the known illuminant light to which the best reference transform function relates is determined, to provide information relating to the spectral characteristics of the light illuminating the scene to be recorded.

96. A method according to claim 95 hwerein at least some of the colour bias due to the illuminating light is removed from the image of the scene to be recorded and/or at least some demosaicing errors and/or interreflection errors and/or shadows present in the recorded image are removed.

97. A method according to claim 45, the method further including the following image recording steps:

recording the responses of the image recording apparatus to image light (P_1) from a scene to be recorded and to optically filtered image light (P_2) from the scene;

determining which colour of illuminant $E(\lambda)$ is closest to the colour of the illuminating light, thereby estimating the colour of the illujminating light; and

removing at least some colour bias due to the illuminating light from the recorded image and/or at least some of any demosaicing errors and/or interreflection errors.

98. A method according to claim 97 wherein the optically filtered image light is filtered using a filter which produces an output which includes relatively more light of one wavelength than the input.

99. A method according to claim 97 wherein the colour of the illuminating light is determined by applying each transform function $T^{a,b}$ to the recorded response (P_1) of the apparatus to the image light and comparing the transformed response (P_1) to the response (P_2) of the apparatus to the filtered iamge light, the transform function which best relates the two responses being the function which identifies the colour of the image light and the filtered image light.

100. A method according to claim 99 wherein the best transform function is defined as the function which minimizes the error of the operation ($T^{a,b}P_1 - P_2$).